Title: DEMAND-BASED CARDIAC FUNCTION THERAPY

IN THE CLAIMS

Please amend the claims as follows:

1-10. (Canceled)

A method, comprising: 11. (Currently Amended)

implanting a cardiac pacing device having a plurality of pacing channels in a patient so as to allow paces to be delivered to a plurality of ventricular sites;

configuring the cardiac pacing device to deliver cardiac function therapy that effects reversal of ventricular remodeling by delivering pacing pulses to one or more stressed or hypertrophied ventricular regions in a manner that pre-excites those region(s) relative to other ventricular regions;

measuring the cardiac output of the patient;

measuring the exertion level of the patient;

configuring the cardiac pacing device to assess the patient's cardiac function by measuring a physiological variable affected by reversal of remodeling; comparing the measured cardiac output with the measured exertion level and computing a cardiac function parameter indicative as to whether the patient's cardiac output is adequate for the measured exertion level; and

configuring the cardiac pacing device to temporarily suspend delivery of cardiac function therapy, assess the patient's cardiac function while no cardiac function therapy is being delivered by comparing the cardiac function parameter to a threshold value, continuing delivery of cardiac function therapy if the patient's cardiac function is determined to be inadequate, and ceasing delivery of cardiac function therapy if the patient's cardiac function is determined to have improved to a specified extent and either cease or continue the delivery of cardiac function therapy based upon the cardiac function assessment.

The method of claim 11 further comprising measuring cardiac 12. (Currently Amended) blood volume and wherein the cardiac function therapy improves the patient's cardiac pumping performance parameter is further computed based upon an ejection fraction derived from measurements of end-diastolic and end-systolic volumes.

13. (Canceled)

- The method of claim 11 wherein the measured physiological 14. (Currently Amended) variable is cardiac output and wherein the cardiac function assessment includes comparing the measured cardiac output to a specified threshold value further comprising measuring diastolic filling pressures and systolic pulse pressures and wherein the cardiac function parameter is further computed based upon the measured diastolic filling pressures and systolic pulse pressures.
- The method of claim [[14]] 11 wherein the cardiac output is 15. (Currently Amended) measured by measuring a trans-throracic impedance and heart rate.
- The method of claim 11 14 further comprising measuring the 16. (Currently Amended) patient's exertion level and wherein the cardiac function assessment includes comparing a function of the measured cardiac output and measured exertion level to a specified threshold value wherein the exertion level measurement is selected from an activity level measurement and a minute ventilation measurement.
- 17. (Original) The method of claim 11 wherein the cardiac function assessment includes an assessment of the patient's autonomic balance by measuring the patient's heart rate variability.
- 18. (Original) The method of claim 17 further comprising:

measuring and collecting time intervals between successive chamber senses and storing the collected intervals as a discrete RR interval signal, filtering the RR interval signal into defined high and low frequency bands, and determining the signal power of the RR interval signal in each of the low and high frequency bands, referred to LF and HF, respectively; and,

computing an LF/HF ratio and assessing cardiac function by comparing the LF/HF ratio to a specified ratio threshold value.

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AMENDMENT AND RESPONSE UNDER 37 CFR § 1.111

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19. (Original) The method of claim 11 wherein the suspension of cardiac function therapy and assessment of the patient's cardiac function are performed upon a command from an external programmer.

20. (Original) The method of claim 11 wherein the suspension of cardiac function therapy and assessment of the patient's cardiac function are performed at periodic intervals.